IN THE CLAIMS

1. (Currently amended) A home control platform comprising:

a plurality of serial buses that is configured to provide interconnections among a plurality of processing units,

a bus allocation control unit that is configured to receive requests for bandwidth allocation from the plurality of processing units, and to provide allocations of subsets of the plurality of serial buses to satisfy the requests;

wherein the bus allocation control unit aggregates multiple serial buses to satisfy a single request.

2. (Original) The home control platform of claim 1, further including

at least one processing unit of the plurality of processing units.

3. (Original) The home control platform of claim 2, wherein

the at least one processing unit includes at least one of:

an MPEG decoder,

an MPEG encoder

a signal processor,

a variable-length decoder,

a variable-length encoder,

a coder-decoder,

a video CODEC,

an audio CODEC,

a Fast-Fourier-Transform device,

a Discrete-Cosine-Transform device,

a video processor, and

an audio processor.

4. (Original) The home control platform of claim 2, wherein

the at least one processing unit includes at least one of:

a serial-to-parallel converter,

a parallel-to-serial converter,

a bus arbitrator,

a bus router, and

a direct-memory-access device.

5. (Original) The home control platform of claim 1, wherein

the at least one processing unit includes:

a filter unit, and

a SDRAM.

6. (Original) The home control platform of claim 5, wherein

the filter unit is configured to be programmable.

7. (Original) The home control platform of claim 1, wherein

each of the plurality of serial buses is configured to be self-timing.

8. (Original) The home control platform of claim 1, further including

at least one control processor that is configured to provide control of data transfer among the plurality of processing units.

9. (Original) The home control platform of claim 8, wherein

the at least one control processor includes at least one of:

a network interface,

a network manager,

a browser, and

a user interface.

10. (Original) The home control platform of claim 9, wherein

the at least one control processor includes at least one of:

a serial-to-parallel converter,

a parallel-to-serial converter,

a bus arbitrator,

a bus router,

a protocol stack, and

a direct-memory-access device.

11. (Original) The home control platform of claim 8, wherein

the at least one control processor includes:

a bus interface unit, operably coupled to the plurality of serial buses, that is configured to effect transfer of data via the plurality of serial buses, and

a central processing unit, operably coupled to the bus interface unit, that is configured to process input data from the bus interface unit, and is configured to provide processed data to the bus interface unit.

12. (Original) The home control platform of claim 11, wherein

the at least one control processor further includes an SDRAM.

13. (Original) The home control platform of claim 8, wherein

the at least one control processor further includes

a microkernel that is configured to provide base operating system services that include at least one of:

semaphores,

messaging,

scheduling,

exception management,

task management, and

memory management.

14. (Original) The home control platform of claim 13, wherein

the at least one control processor further includes

an interface that is configured to couple the microkernel to a standard operating system.

15. (Original) The home control platform of claim 14, wherein

the standard operating system includes one of: Vxworks, WinCE, and LINUX.

16. (Original) The home control platform of claim 13, wherein

the task management is configured to provide direct access to at least one of the plurality of processing units,

the at least one of the plurality of processing units being configured as a coprocessor, and

the direct access being provided through a coprocessor interface layer.

17. (Original) The home control platform of claim 8, wherein

the at least one control processor is further configured to provide at least one of:

task memory and CPU space isolation,

virus protection, and

money management.

18. (Original) The home control platform of claim 8, wherein

the at least one control processor is further configured to provide an interface between the home control platform and at least one legacy consumer product,

the at least one legacy consumer product includes at least one of:

a television,

a telephone,

an audio system,

a video system, and

an appliance.

19. (Original) The home control platform of claim 8, wherein

the at least one control processor includes at least one of:

a voice recognition system,

a voice synthesis system, and

a wireless device interface system.

20. (Original) The home control platform of claim 1, wherein

each of the plurality of serial buses is configured to be self-timing.

21. (Original) The home control platform of claim 1, further including

a power supply that is configured to provide power to one or more of the plurality of processing units.

22. (Currently amended) A processing unit for use in a home control platform, comprising:

one or more filter units,

a bus interface unit, operably coupled to a plurality of serial buses of the home control platform, that is configured to:

receive an allocation of a select one or more buses of the plurality of buses from the home control platform, and

provide communication between the home control platform and the one or more filter units via the select one or more buses

wherein, when an allocation of multiple buses is received from the home control platform, the multiple buses are aggregated to satisfy a single communication request.

23. (Original) The processing unit of claim 22, wherein

the one or more filter units are configured to effect the function of at least one of:

an MPEG decoder,

an MPEG encoder

a signal processor,

a variable-length decoder,
a variable-length encoder,
a coder-decoder,
a video CODEC,
an audio CODEC,
a Fast-Fourier-Transform device,
a Discrete-Cosine-Transform device,
a video processor, and
an audio processor.

24. (Original) The processing unit of claim 22, further including:
a serial-to-parallel converter,
a parallel-to-serial converter, and
a direct-memory-access device.

25. (Currently amended) A control processor for use in a home control platform, comprising

a bus interface unit, operably coupled to a plurality of serial buses of the home control platform, that is configured to effect transfer of data via the plurality of serial buses, based on an allocation of a select one or more buses of the plurality of serial buses by the home control platform, and

a central processing unit, operably coupled to the bus interface unit, that is configured to process input data from the bus interface unit, and is configured to provide processed data to the bus interface unit

wherein, when an allocation of multiple buses is received from the home control platform, the multiple buses are aggregated to satisfy a single communication request.

26. (Original) The control processor of claim 25, further including

a microkernel that is configured to provide base operating system services that include at least one of:

semaphores,

messaging,
scheduling,
exception management,
task management, and
memory management.

27. (Original) The control processor of claim 26, further including
an interface that is configured to couple the microkernel to a standard operating system.

28. (Original) The control processor of claim 26, wherein
the task management is configured to provide direct access to at least one of a plurality of processing units,
the at least one of the plurality of processing units being configured as a coprocessor, and
the direct access being provided through a coprocessor interface layer.

29. (Original) The control processor of claim 25, further including:
an interface between the home control platform and at least one legacy consumer product, wherein
the at least one legacy consumer product includes at least one of:
a television,
a telephone,
an audio system,
a video system, and
an appliance.

30. (Original) The control processor of claim 25, further including at least one of:
a voice recognition system,
a voice synthesis system, and
a wireless device interface system.